KD-CATHD150

HDMI/DVI via Dual CAT5e/6 Baluns (Tx/Rx),
supports up to 150 ft. on 1080p/60
with IR, RS-232, Audio Return, Ethernet

Operating Instructions

KD-CATHD150 is a master box that includes one (1) KD-CATHD150Tx Transmitter Balun and one (1) KD-CATHD150Rx Receiver Balun. KD-CATHD150 is capable of sending 1080P/60 to distances of up to 150 ft., and lower resolutions up to 300 ft.* with Bi-directional IR/Uni-Directional RS-232. Supports advanced HDMI® features: 3D Ready, 4K Resolution Support, Audio Return Channel, HDMI Ethernet Channel.

* Must use CAT5e/6 cables approved by Key Digital.

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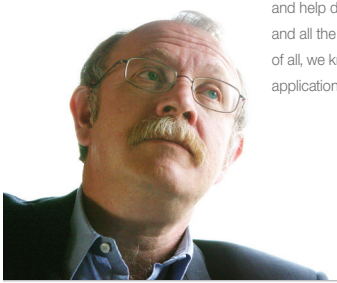
The Experts in Digital Video Technology and Solutions™

Key Digital®, led by digital video pioneer Mike Tsinberg, develops and manufactures high quality, cutting-edge technology solutions for virtually all applications where high quality video imaging is important. Key Digital® is at the forefront of the video industry for Home Theater Retailers, Custom Installers, System Integrators, Broadcasters, Manufacturers, and Consumers. We provide total video system solutions because we know and help drive the technology, the industry, the business, and all the latest up-and-coming standards. But most of all, we know exactly what you need for your unique application - the right solution.



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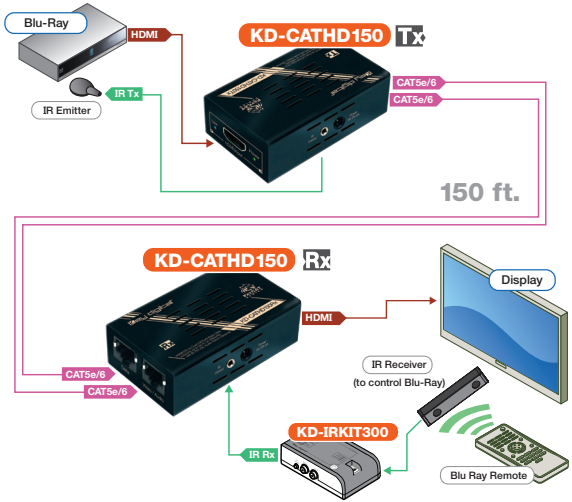
Quick Set Up Guide

- Using an HDMI Cable, connect source device to HDMI Input port on KD-CATHD150Tx.
- For IR, connect appropriate IR Emitter, Receiver, or Control System.



- Connect the CAT5e/6 Outputs of the KD-CATHD150Tx Balun to the corresponding Data and Video/Audio RJ45 ports on the KD-CATHD150Rx balun.
- For IR, connect appropriate IR Emitter, Receiver, or Control System connections.
- For RS-232, use 3.5mm mono to DB-9 adapters or appropriate connection type for your control system.
- Finally, apply power to the KD-CATHD150Tx and KD-CATHD150Rx balun.

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You MUST use the Power Supply provided with your unit or you VOID the Key Digital® Warranty and risk damage to your unit and associated equipment.

Please read all instructions to insure safe operation of the product.

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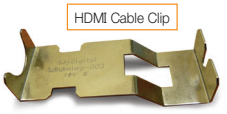
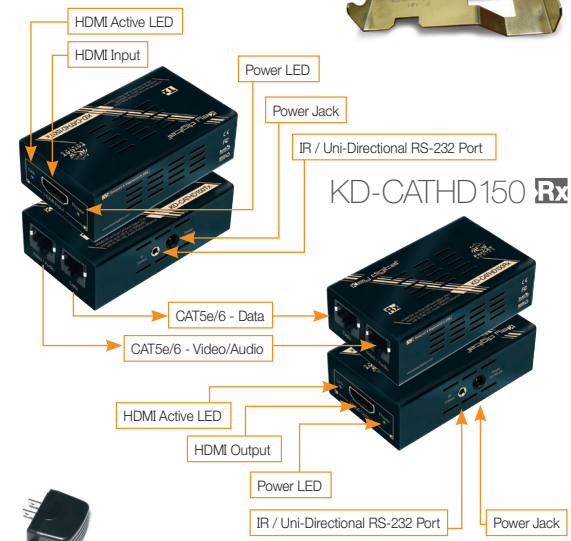
KD-CATHD150 Tx





CAUTION: No other power supply adapter can be used with this unit! Using a power supply other than the one provided by Key Digital® with the unit VOIDS THE ENTIRE PRODUCT WARRANTY, may cause damage to the unit and associated equipment, and is a potential safety hazard.

Advanced HDMI® Features

- → **3D** – Capability to pass 3D stereoscopic signal formats
- → **4K** – 4096x2160/24 video resolution support for commercial applications such as Digital Movie Theaters, CAD, Post Production, Graphics and etc.
- → **Audio Return Channel** - Allows audio to be returned from display back to HDMI source for amplification and display
- → **HDMI Ethernet Channel** - Allows 100 Mb/s Ethernet between two HDMI connecting devices

Installation Instructions

Find a safe and convenient location for the KD-CATHD150 unit.

- → **Before permanently securing the unit or final installation of cabling behind walls or ceilings, test for proper operation of the unit and the cables in your system.**

CAT5e/6 Cabling

- → KD-CATHD150 Baluns will work with CAT5e, or CAT6 unshielded (UTP) cabling. For installations in hostile electrical environments, shielded (STP) CAT6 cabling is recommended.

Connections

- → Each KD-CATHD150Rx and Tx Balun has an HDMI, 2 x CAT5e/6, a 3.5mm mono mini jack for IR / Uni-Directional RS-232, and a 5V 2A power connection.
- → With all of your equipment and Baluns powered off, make your connections
- → Power the equipment and Baluns On
- → When powered on, the KD-CATHD150 Balun will show a green LED for power, and a blue LED when the Balun is "synced" between the source and display
- → Both CAT5e/6 cables are required

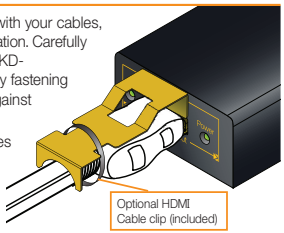
Power

- → KD-CATHD150Rx and KD-CATHD150Tx units must be powered

Mounting the KD-CATHD150 units and securing HDMI connections

Once you have verified operation of the unit with your cables, secure the mounting clip to a convenient location. Carefully secure included mounting brackets onto the KD-CATHD150Rx or KD-CATHD150Tx chassis by fastening screws until mounting clips are fixed firmly against the units.

An optional HDMI cable clip (included) enables a method for securing HDMI cables the KD-CATHD150 units and helps defeat intermittent or complete signal loss due to poor connection.



DVI applications for the KD-CATHD150

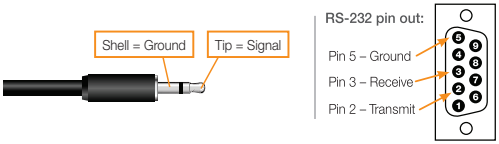
- The KD-CATHD150 can also be used to extend Digital DVI cable runs.
- For the applications, use appropriate Dual Link DVI to HDMI adapters.

Link Lights

To achieve solid Link Lights on the KD-CATHD150Tx and KD-CATHD150Rx baluns, all connections must be solid and properly synced. This includes the HDMI connectivity between source and KD-CATHD150Tx balun, Data and Video/Audio CAT5e/6 connectivity between KD-CATHD150Tx and KD-CATHD150Rx baluns, and HDMI connectivity between KD-CATHD150Rx balun and display.

Extending Control Signals with KD-CATHD150

KD-CATHD150 baluns can be used to extend bi-directional IR signals or uni-directional RS-232 control. Use the 3.5mm mono mini connection on the KD-CATHD150Tx and KD-CATHD150Rx.



Extending CEC (Consumer Electronic Control) Signals

KD-CATHD150 supports extension of CEC signals when no connections are made to either 3.5mm port of the KD-CATHD150 ends. KD-CATHD150 does not support CEC and extension of IR / Uni-Directional RS-232 simultaneously. To disable CEC support, as may be desired in many custom A/V applications, please connect a 3.5mm plug into any of the ports on KD-CATHD150Tx or KD-CATHD150Rx.

CEC is an HDMI feature designed to command and control up to ten CEC-enabled devices that are connected via HDMI with a single remote. CEC does not necessarily rely upon the user to initiate such device control and therefore may cause undesirable results in systems with multiple HDMI sources or multiple HDMI displays.

Troubleshooting

Most issues with the KD-CATHD150 setup will involve resolution and distance performance. If you experience problems (no image, video artifacts, picture dropout, noise) here are a few things to try.

1. Use the shortest possible HDMI and CAT5e/6 cables between devices.
2. Lower the output resolution of the image source.
3. Use Key Digital® HDMI cables.
4. Re-terminate CAT5e/6 cabling.
5. Ensure that you source devices have 12-bit Deep Color output disabled

Supported Resolutions

Common Video Resolutions

Resolution	Common Name	Distance with third-party CAT5e/6 cables*	Distance with KD-CAT6STP1X cables
720x480 (split into 2 fields)	480i	300'	300'
720x480	480p	300'	300'
1280x720	720p	300'	300'
1980x1080 (split into 2 fields)	1080i	300'	300'
1920x1080	1080p/24	300'	300'
1920x1080	1080p/60	150'	250'
3D @ 1080p	3D/1080p	150'	250'
3D @ 1080i	3D/1080i	300'	300'
3D @ 720p	3D/720p	300'	300'

Common Computer Resolutions

Resolution	Common Name	Distance with third-party CAT5e/6 cables*	Distance with KD-CAT6STP1X cables
800x600	SVGA	300'	300'
1024x768	XGA	300'	300'
1280x768	WXGA	300'	300'
1280x1024	SXGA	300'	300'
1366x768	WXGA+	300'	300'
1440x1080	SXGA+	150'	250'
1600x1200	UXGA	150'	250'
1920x1200	UWXGA	150'	250'

DISCLAIMER: Maximum distance specifications may vary based on UTP cable and crimping connection quality. For optimum performance at maximum distances, please use STP cabling with properly soldered shielded RJ45 connectors.

* Must use CAT5e/6 cables approved by Key Digital. Key Digital® HDMI® product specifications are given using only Key Digital HDMI cables. Using any other cables can alter or prevent your Key Digital HDMI product from meeting the given features and benefits of our advanced line of HDMI products. HDMI Products using CAT5e/6 cabling should be properly terminated and of high grade in order to maintain the best performance possible. cables will insure these products good performance in hostile RF interference environment.

Technical Specifications

- Inputs: KD-CATHD150Tx - 1 HDMI/DVI connector; KD-CATHD150Rx - 2 CAT5e/6 IN on RJ45 connectors; Bi-directional IR / Uni-directional RS-232 on 3.5 mm mono mini jack
- Outputs: KD-CATHD150Tx - 2 CAT5e/6 OUT on RJ45 connectors; KD-CATHD150Rx - 1 HDMI/DVI connector; Bi-directional IR / Uni-directional RS-232 on 3.5 mm mono mini jack
- Bandwidth: 10.2 Gb/s TMDS bandwidth
- EQ Adjustments: Auto Adjust
- HDMI® and HDCP Licensing: Fully licensed and compatible with all HDMI and HDCP techologies
- Link and Range: Single Link: (1080p/60) 12 bit color depth, 1920x1200 max. up to 150 ft.; (1080i/60, 720p, 1080p/24) up to 300 ft.
- Deep Color Support: Supports Digital Video Formats in Deep Color Mode at up to 12 bits/color for 480p/720p/1080i resolutions
- Lossless Compressed Digital Audio Support: Dolby® TrueHD, Dolby® Digital Plus and DTS™-HD Master Audio
- DDC Signal (Data): Input DDC Signal: 5 Volts p-p (TTL)
- HDMI Video/Audio Signal: Input Video Signal: 1.2 Volts p-p
- RJ45 Connectors: Shielded Link Connector RJ45
- DDC Communication: EDID and HDCP Transparency from Display to Source
- Power: External Power Supply – 5V DC / 2A, 110-240 VAC, 50-60 Hz

General Specifications

- Regulation: CE, RoHS, WEEE
- Accessories: Mounting Bracket, Locking HDMI Cable Clip, KD-PS5V2A UL Certified Power Supply
- Product Dimensions: L = 3.5" W = 1.75" H = 1"
- Shipping Carton Dimensions: L = 7.5" W = 8.5" H = 2"
- Product Weight: 1 lb; Shipping Weight: 2 lbs
- Enclosure: Black Metal

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Important Product Warnings:

1. Connect CAT5e/6 cables before providing power to the unit.
2. Test for proper operation before securing unit behind walls or in hard to access spaces.
3. If installing the KD-CATHD150 into wall or mounting bracket into sheet-rock, provide proper screw support with bolts or sheet-rock anchors.

Safety Instructions.

Please be sure to follow these instructions for safe operation of your unit.

1. Read and follow all instructions.
2. Heed all warnings.
3. Do not use this device near water.
4. Clean only with dry cloth.
5. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
6. Only use attachments/accessories specified by the manufacturer.
7. Refer all servicing to qualified service personnel. Servicing is required when the device has been damaged in any way including:
   - → Damage to the power supply or power plug
   - → Liquid spills on the device
   - → Objects fallen into the device
   - → Exposure to rain or moisture

CAT5e/6 Splicing

Do not use patch panels, punch downs, keystones, wall plates, or splicing of the CAT5e/6 cables at any time.

How to Contact Key Digital®

Customer Support

For customer support questions please contact us at:

- → Phone: **914-667-9700**
- → E-mail: customersupport@keydigital.com

Technical Support

For technical questions about using Key Digital® products, please contact us at:

- → Phone: **914-667-9700**
- → E-mail: tech@keydigital.com

Repairs and Warranty Service

Should your product require warranty service or repair, please obtain a Key Digital® Return Material Authorization (RMA) number by contacting us at:

- → Phone: **914-667-9700**
- → E-mail: rma@keydigital.com

Feedback

Please email any comments/questions about the manual to:

- → E-mail: customersupport@keydigital.com

Warranty

All Key Digital® products are built to high manufacturing standards and should provide years of trouble-free operation. They are backed by a limited two-year parts and labor warranty.